

To,
The Member Secretary,
Goa State Pollution Control Board,
Dempo Towers, 1st Floor,
EDC Patto Plaza,
Panaji, Goa

N. Mele
26/09/2018

Date: 19/09/2018

Goa State Pollution Control Board
Opp. Saligao Seminary
Saligao, Bardez Goa.

Sub: Submission of Environmental Statement for the Financial Year 2017-2018 for
Met Coke Division, Waste Heat Recovery Power Plant 2.

Ref:-Consent To Operate No:- 5/4462/09-PCB/CI-3257 dated 29/09/2017, Coke oven
plant expansion , Waste Heat Recovery Power Plant 2, Navelim, Bicholim-Goa

With reference to above subject find enclosed herewith Environment Statement in Form V
for financial year 2017-2018 for Met Coke Division, Waste Heat Recovery Power Plant 2 for
your perusal.

Kindly acknowledge the receipt.

Thanking you,

Yours Faithfully,
For Vedanta Limited – Value Addition Business


Saptesh Sardesai
Head Met Coke Division

Encl: as above

VEDANTA LIMITED

Value Added Business, Met Coke Division, Navelim, PO Sanquelim, Bicholim, Goa-403 505
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CIN: L13209MH1965PLC291394

FORM V

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING 31ST MARCH 2018

PART--- A

i	Name & address of the owner /occupier of the industry operation or process	Mr. G.R. Arun Kumar The occupier Vedanta Ltd. -- (Waste Heat Recovery Power Plant-2) (Coke Oven Plant -Expansion) Navelim Goa 403107
ii	Industry category	Major (Red Category)
iii	Production capacity	3,00,000 TPA (Met coke Division) 35MW (Generation of Power)
iv	Year of establishment	March 2012
v	Date of last environment statement submitted	24/09/2017

PART ---- B

Water and Raw Material consumption

(1) Water consumption m³/d

(a)	Process	-----
	(Waste Heat Recovery Power Plant-2)	
(b)	Cooling	1930.5 m3/day
(c)	Domestic	1.96 m3/day
	(Coke Oven Plant -Expansion)	
(b)	Cooling	484 m3/day
(c)	Domestic	6.08 m3/day

	Name of the product	Process water consumption per unit of product out put	
		During previous financial year 2016-2017	During current financial year 2017-2018
1	Metallurgical Coke	For Coke Quenching 0.63 m ³ / t Coke	For Coke Quenching 0.66 m ³ / t Coke

2	Power from waste heat of COFG (from Coke oven plant-Expansion) & BFG (from 0.45 MTPA Blast Furnace)	0.249 m3 for 1 MWh power Generation	0.193 m3 for 1 MWh power Generation
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(2) Raw Material consumption

Name of the Raw Material	Name of the Product	Consumption of Raw Material per unit	
		During previous Financial year 2016-2017	During current Financial year 2017-2018
Coking Coal	Metallurgical Coke	1326 Kg/T of product	1341 Kg/T of product
Waste heat of Coke Oven flue gas and blast furnace gas	Power	3.14 Mill Kcal for 1MWh generation	3.248 Mil kcal for 1 Mwh generation

PART-----C

POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUT PUT

	Pollution	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharge (mass/day)	Percentage of variation from prescribed standards with reasons
(a)	Water	No effluents discharged		No Variation
(b)	Air	Nil as flue gas is let out through WHRPP (waste heat recovery power plant) stack.		Not Applicable
(a)	Water	Avg. Cooling Tower Blow down is 193.11 m3/day		Well within permissible limits
(b)	Air	Monitoring carried out as per Consent conditions and is within permissible limit, and results submitted to GSPCB		

- During Monsoon, only the Storm water is let out after achieving proper settling in settling pond.
- There are two stacks of 48mtr height. Each stack is connected to a battery of 36 coke ovens. A tapping from each of these stacks is connected to Waste Heat Recovery Boiler (WHRB) - 2 X 65 TPH.
- During the normal operation, the coke oven stacks are closed with flap dampers and sensible heat is diverted to WHRB for clean power generation.

PART--- D

HAZARDOUS WASTES

(As specified under Hazardous Wastes (Management, Handling & Transboundary movement) Rules, 2008)

		During the previous Financial year (2016-17)	During the current Financial year (2017-18)
(a)	From process	N.A	N.A
(b)	From pollution control facilities	N.A	N.A

PART--- E

SOLID WASTES

No Solid Waste is generated in Vedanta Ltd. Non Recovery type Coke Oven Process.

PART-- F

1. Hazardous Waste:

Occupier is authorized to handle used oil/Spent oil (Category 5.1) upto 30,000 liters per annum, Oil soaked cotton rags/wastes (Category 5.2) up to 21,000 kg/Annum, and Used/Discarded Paint Tins (Category 33.3) up to 3,000 nos/Annum.

Total nos. of used containers disposed for the financial year 2017-18 Nil.

Form-4 submitted to GSPCB on 26/06/2018.

PART—G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

1. The water used for coke quenching is recycled & recirculated, after settling in the tanks.
2. Grit arrestors provided at quench tower.
3. Coke Oven Flue Gas (COFG), having sensible heat, is utilized for generating Clean Power, using Waste Heat Recovery Boiler (WHRB).
4. Air Pollution control devices - Bag filters provided for Coke Screening Plant, Coal Crushing Plant charging machine/ for individual coke ovens along coal cake charging side.
5. Ambient Air Quality monitoring station installed at different places, monitoring is carried out twice a week for all 12 parameters as per NAAQS and reports are submitted to Pollution Control Board on monthly basis.
6. Grit arrestors provided at quench tower.
7. Coke Oven Flue Gas (COFG) having sensible heat, is utilized for generating Clean Power, using Waste Heat Recovery Boiler (WHRB).
8. Continuous Ambient Air Quality Monitoring System (CAAQMS) has been installed at Navelim side to monitor Particulate Matter (PM₁₀ & PM_{2.5}) and same is connected to CPCB on regular basis.
9. Continuous Sound level meter installed to monitor Noise.
10. Windshields have been set up along the coke yard.
11. Continuous Effluent monitoring system connected to Blow down water to measure pH, Temperature & T.S.S.
12. Online dust analyzer connected to Boiler stacks to monitor PM.
13. This is a clean Technology as WHRB PP is designed to operate on waste gases of Coke Oven Plant and the Blast Furnace, to generate Power.
14. The excess Power Generated is evacuated to Goa Electricity (GED) which helps the state of Goa to meet part of Power Requirement.
15. Green belt development through yearly plantation in monsoon.

PART—H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

Flue gas from Non Recovery coke ovens are used to generate waste heat recovery power plant.

Waste Heat Recovery Based power plant is itself a Clean Process which generates power from waste heat.

PART--I

Any other particulars for improving the quality of the environment.

- Total of 847 saplings were planted in the plant premises of Met Coke Division, Coke Oven Plant (Expansion) & Power Plant for the year 2017-18.
- Deployed Dulevo machine on transport road to extract dust in order to control dust emission.
- Stakeholder engagement is carried out, by virtue of which, various socio-economic programs on the front of education, health, infrastructure, agriculture & livelihood development for overall community development in Navelfm village has been taken.